

THE

INDUSTRIAL ARTS INDEX

FIRST TWO-YEAR CUMULATION [SEVENTH ANNUAL VOLUME]

1918 - 1919

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING AND TRADE PERIODICALS

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Put out of sight or discard altogether your 1018 annual volume of the Industrial Arts Index. This is not a command but a friendly warning. Since this volume is a cumulation covering the years 1918 and 1919 and therefore includes everything that the 1918 cumulation contains, the use of the 1918 annual would be a waste of time; all the benefit which justifies the added labor and cost of putting together in one alphabet the two years' record would be lost.

After proving mathematically that during a ten year period there is greater efficiency in the two-yearly or three-yearly than in fiveyearly cumulations, the publishers of the Industrial Arts Index sought an expression of opinion from their subscribers, with the result that the two-year plan was adopted. Hereafter, if this plan proves satisfactory, an annual cumulation, covering one year, will be published in the even years and a two-year cumulation will be published in the odd years.

On the following pages will be found a list of periodicals indexed. A few of these are indexed only from January 1919. These ares Architectural Forum, Aviation, Color Trade Journal, Electric Journal, Flying, Journal of Electricity, Marine Review. Owing to the delay in publishing caused by the printers' strike last fall, the December numbers of the New York periodicals did not appear in time for indexing in this volume but will be included of course in the next current issue.

In response to the wishes of our subscribers, ascertained by a carefully tabulated vote, the following additional magazines have been selected for indexing in 1920:

American Ceramic Society. Journal American Electrochemical Society. Proceedings

American Journal of Science American Society for Testing Materials. Proceedings

American Society of Refrigerating Engincers. Journal

Blast Furnace and Steel Plant Canadian Engineer Chimie et Industrie Commercial and Financial Chronicle Electrician Engineering India Rubber World Institution of Mechanical Engineers. Jour-

Journal of Physical Chemistry Mining and Scientific Press Monthly Labor Review National Petroleum News Nation's Business Paper Popular Mechanics Power Plant Engineering Printers' Ink

Society for the Promotion of Engineering Education. Proceedings

Society of Automotive Engineers. Journal Society of Chemical Industry. Journal U.S. Bureau of Labor Statistics. Bulletin U.S. Geological Survey. Bulletin Wireless Age

The method of selecting periodicals by vote insures the indexing of those that are actually in use in libraries. It is also the policy of the Industrial Arts Index to index each magazine very closely. In the case of the more important periodicals found in the majority of libraries subscribing to the Index, even short paragraphs are often indexed, articles of value are usually assigned several subject headings in order that every aspect of the subject may be covered. The headings moreover are made very specific and many

NOTES AND ANNOUNCEMENTS

sub-headings are made in order that the user of the Index may not have to read thru a long list of references to find material on the particular phase of a subject in which he is interested.

It may be permissible to refer those interested in farm buildings, agricultural machinery, rural sanitation, and other branches of agricultural engineering to the Agricultural Index for additional material on these subjects. Material on commercial subjects which will be more largely represented hereafter in the Industrial Arts Index may also be found in the Readers' Guide to Periodical Literature. But the addition of Printers' Ink, Commercial

and Financial Chronicle and Nation's Business to the list of magazines indexed in the Industrial Arts Index will make it one of the most useful tools of the business library.

Miss Charlotte Noyes deserves credit for a good part of the indexing of the 1918 periodicals. Miss Jessica Doty, formerly of the Engineering Societies Library, has recently assisted in the indexing. Miss Emily Anderson and Miss May Carpenter have prepared copy for the printer and assisted in proofreading. Miss Elsie Schonholtz has typewritten a large part of the copy. Miss Louise Teich in addition to editorial work has supervised the Index from its beginning in 1913.

List of Periodicals Indexed

- Am Arch—The American Architect. \$10; single numbers 25c. Architectural & Building Press, Inc., 243 W 39th St, New York.
- Am Chem Soc J—Journal of the American Chemical Society. \$6. Charles L. Parsons, sec., 1709 G St, N. W., Washington, D.C.
- Am Gas Eng J—American Gas Engineering Journal. \$3; single numbers 10c. American Gas Light Journal, Inc., 150 Nassau St, New York. Formerly American Gas Light Journal.
- Am Gas Inst Pro-Proceedings of the American Gas Institute, tenth and eleventh annual meetings, 1915-1916. ea \$7.50 to libraries. American Gas Institute, 29 W 39th St, New York.
- Am Gas Light J-See Am Gas Eng J
- Am Ind—American Industries. \$1; single numbers 10c. National Manufacturers Co., 30 bers 10c. National l Church St, New York. Čo.,
- Am inst Arch J—Journal of the American Insti-tute of Architects. \$5; single numbers 50c. American Institute of Architects, The Octa-gon, Washington, D. C.
- Am Inst E E Pro—American Institute of Electrical Engineers. Proceedings. \$10; single numbers \$1. F. L. Hutchinson, sec., 33 W 39th St, New York.
- Am Inst Min Bul—Bulletin of the American Institute of Mining and Metallurgical En-gineers. subs. \$10; single numbers \$1; to members, public libraries, and educational institutions, \$5; single numbers 50c. B. Stoughton, sec., 29 W 39th St, New York.
- Am Lumberman—American Lumberman. \$4; single numbers 15c. American Lumberman, Manhattan Bldg., 431 S. Dearborn St, Chicago.
- Am Mach—American Machinist. \$5; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 86th St, New York.
- Am Soc Heat & V E—Transactions of the American Society of Heating and Ventilating Engineers. American Society of Heating and Ventilating Engineers, 29 W 39th St, New York.
- Am Soc M E J. See Mech Eng
- Am Water Works Assn J—Journal of the American Water Works Association. \$5; American Water Works Assn. Mount Royal and Guilford Avenues, Baltimore, Md.
- Arch & Bidg—Architecture and Building. \$2.50; single numbers 25c. William T. Comstock Co., 1 23 Warren St. New York.
- Arch Forum—Architectural Forum. \$6; sin † numbers 60c. Rogers and Manson Co., Water St. Boston.
- Arch Rec—Architectural Record. \$3; single numbers 35c. Architectural Record Co., 115 W 40th St, New York.
- Automobile—See Automotive Ind
- utomotive ind—Automotive Industries. \$3; single numbers 20c. Class Journal Co., 231 W 39th St, New York. Formerly Automobile Automotive
- Aviation—Aviation and Aeronautical Engineer-ting. 38; single numbers 25c. Gardner-Moffat Co., Inc., Hartford Bidg., 22 E 17th St, New York.
- Bidg Age—Building Age, \$2; single numbers 25c. Architectural and Building Fress, Inc., 243 W 39th St. New York.
- Boston Soc C E J Journal of the Boston Society of Civil Engineers, \$4 (ten numbers); single numbers 50c. Boston Society of Civil Engineers, 715 Tremont Temple, Boston.
- Ohem & Met Eng.—Chemical and Metallurgical Engineering, \$3; single numbers 250, McGraw-Hill Co., Inc., 10th Av. at 38th St., New York. Formerly Metallurgical and Chemical Engineering

- Coal Age—Coal Age. \$3; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, York.
- Color Tr J—Color Trade Journal. \$5; single † numbers 50c. Color Trade Journal, Inc., 21 E 40th St, New York.
- Concrete—Concrete. \$2; single numbers 20c. Concrete-Cement Age Pub. Co., Telegraph Bldg., Detroit, Mich. Formerly published as Concrete-Cement Age.
- Dom Eng—Domestic Engineering. \$2; single numbers 10c. Domestic Engineering Co, 407 S Dearborn St, Chicago.
- Econ Geol—Economic Geology. \$3.50; single numbers 60c. Economic Geology Pub. Co., 41 North Queen St, Lancaster, Pa.
- Elec J—The Electric Journal, \$2; single num-† bers 20c. The Electric Journal, 1204 Keenan Bldg., Pittsburgh, Pa.
- Elec Ry J—Electric Railway Journal. \$4; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Elec R—Electrical Review. \$3; single numbers 10c. International Trade Press, Inc., 542 Monadnock Blk., Chicago.
 - Formerly Electrical Review and Western Electrician.
- Elec W—Electrical World. \$5; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Engineer—Engineer. Thick paper ed £3 7s 6d; Canadian subs £3 3s; thin paper ed £3 3s; Canadian subs £2 18s 6d. Engineer, 33 Nor-folk St, Strand, London, W.C. 2.
- Eng & Contr—Engineering and Contracting. \$3. Engineering and Contracting Pub. Co., 608 S Dearborn St, Chicago.
 Eng & Min J—Engineering and Mining Journal. \$5; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Eng N-Engineering News-Record. \$5; single numbers 20c. McGraw-Hill Co.; Inc., 10th Av at 35th St, New York.
 Engineering News consolidated with Engineering Record beginning April 5, 1917.
- Eng Rec-See Eng N
- Eng Soc W Pa—Proceedings of the Engineers' Society of Western Pennsylvania. \$5; single numbers 50c. Engineers' Society of Western Pennsylvania, 568 Union Arcade Building, Pitisburgh, Pa.
- actory—Factory. \$3; single numbers 25c. A. W. Shaw Co., Wabash Av & Madison St, Chicago.
- Flying—Flying. \$3; single numbers 25c. Flying † Assn., Inc., 280 Madison Av, New York.
- Foundry—Foundry. \$2; single numbers 15c. Penton Pub. Co., Penton Bldg., Cleveland, O.
- Gas Age—Gas Age. \$3; single numbers 25c.
 Progressive Age Pub. Co., 52 Vanderbilt Av,
 New York. Formerly Progressive Age.
- Gen Elec R—General Electric Review. \$2; single numbers 20c. General Electric Co., Schenectady, N. Y.
- Good Roads n s-Good Roads new series. \$8; single numbers 10c. E. L. Powers Co., 150 Nassau St, New York.
- Heat & Ven—Heating and Ventilating Magazine. 32; single numbers 20c. Heating & Ventilating Magazine Co., 1128 Broadway. New York.
- Horseless Age Horseless Age. 31; single numbers 10c. Horseless Age Co., 95 Madison Ag. bers 10c. Horseless Age Co., 95 Medison Av. New York. Horseless Age consolidated with Metor Age, Motor World and Automotive in-dustries in June, 1918, with title Motor Age.

LIST OF PERIODICALS INDEXED

- Ill U Eng Exp Sta Bul—Illinois University Engineering Experiment Station. Bulletin. Univ. of Ill., Urbana.
- III U Eng Exp Sta Circ—Illinois University Engineering Experiment Station. Circular. Univ. of Ill., Urbana.
- Illum Engr—Illuminating Engineer. 12s 6d; single numbers 1s 3d. Illuminating Engineering Pub. Co., 32 Victoria St. London, S. W. 1. Illum Eng Soc—Transactions of the Illuminating Engineering Society. \$5; single numbers 75c. Illuminating Engineering Soc., 29 W 39th St. York.
- Ind Management—Industrial Management \$3;
 single numbers 35c. Industrial Management,
 6 E 39th St, New York.
 Formerly Engineering Magazine.
- Inland Ptr—Inland Printer. \$4; single numbers 40c. Inland Printer Co., 632 Sherman St, Chicago.
- Inst E E J—Journal of the Institution of Elec-trical Engineers, single numbers 7s. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. I.; Spon & Chamberlain, 123 Liberty St. New York.

The Institution premises have been taken over by H. M. Government and the temporary offices are at 1 Albemarle Street, London,

- Int Marine Eng-International Marine Engineering. \$2. Aldrich Pub. Co., 6 E. 39th St, New York.
- Iron Age—Iron Age. \$5; single numbers 25c. Iron Age Pub. Co., 239 W 39th St, New York.
- fron TR—Iron Trade Review, \$4; single numbers 15c. Penton Pub. Co., Penton Bidg., Cleveland, O.

 J Account—Journal of Accountancy, \$1; single numbers 35c. Ronald Press Co., 20 Vesey St.
- New York.
- Elec-Journal of Electricity, \$2.50; single numbers 25c. Technical Pub. Co., 171-173 † numbers 25c. Second St. San Francisco, Cal.
- J Fr Inst-Journal of the Franklin Institute single numbers 50c. Franklin Institute, Philadelphia.
- Ind & Eng Chem-Journal of Industrial and longineering Chemistry. \$6; single numbers 60c. American Chemical Society, Faston, Pa.
- Locomotive—Locomotive, 50c; single numbers gratis; recent bound volume: \$1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
- Mach—Machinery, Engineering edition \$3; single numbers 35c. Industrial Press, 140 La-fayette St, New York.
- Marine R—Marine Review. \$2; single num-thers 20c. Penton Pub. Co., Penton Bldg.. Cleveland, O.
- Mech Eng—Mechanical Engineering, the Jour-nal of the American Society of Mechanical Engineers, \$3; single numbers 35c. American Society of Mechanical Engineers, 29 W 39th St, New York.
- Met & Chem Eng-See Chem & Met Eng
- Metal Ind—Metal Industry. \$1; single numbers 10c. Metal Industry Pub. Co., 99 John St, New York.
- Metal Work Metal Worker, Plumber & Steam Fitter, \$3; single numbers 10c. Architectural & Building Press, Inc., 243 W 39th St. New
- Mining and Metallurgy. See Am Inst Min Bul
- Mo U Sch Mines & Met Bul-Rulletin of the University of Missouri, School of Mines and Metallurgy, Univ. of Mo., Rolla Mo U Sch Mines & Met Bul tech ser—Bulletin of the University of Missouri, School of Mines and Metallurgy, Technical Series, Univ. of Mo., Rolla
- Motor Age. Motor Age. \$3; ningle numbers 20c. Class Journal Co., 59 H. Madison St, Chicago.
- Munic Eng.-Municipal and County Engineering. 52; single numbers 25c. Engineering Pub. Co., 702 Wulsin Bidg. Indianapolis, Ind.
 - † Indexed beginning January, 1919.

- Munic J-Municipal Journal and Public Works. \$3, single numbers 10c; special numbers 25c. Municipal Journal and Engineer, Inc., 243 W
- Municipal Journal and Engineer, Arc., 225 ... 39th St, New York.

 Power—Power. \$3; single numbers 10c. Mc-Graw-Hill Co., Inc., 10th Av at 36th St, New York.
- y Age—Railway Age. \$5; single numbers 15c. Simmons-Boardman Pub. Co., Woolworth Ry Age-Bldg., New York. Formerly Railway Age Gazette

Ry Mech Eng-Railway Mechanical Engineer in-cluding the American Engineer. \$2, single numbers 20c. Simmons-Boardman Pub. Co., Woolworth Eldg., New York. Formerly Railway Age Gazette, Mechanical

edition.

- Ry R.—Railway Review. \$4; single numbers 15c. Railway Review, 537 S bearborn St, Chicago; 30 Church St, New York. Formerly Railway and Engineering Review.
- Sci Am-Scientific American. \$5; single numbers
- 10c. Munn & Co., 233 Broadway, New York. Sci Am S—Scientific American Supplement. \$5, single numbers 10c. Munn & Co., 233 Broadsingle numbers I way. New York.

Changed to Scientific American Monthly beginning January, 1920.

- Sibley J—Sibley Journal of Engineering, \$2; single numbers 20c. Sibley College, Cornell Univ., Ithaca, N. Y. Suspended publication temporarily.
- Stevens Ind Stevens Indicator, \$1.50; single numbers 50c. Stevens Institute of Technology, Hoboken, N. J.
- Textile World Textile World Journal, \$3, Bragdon, Lord & Nagle Co., 334 4th Av. New York. Formerly published as Textile World Record, monthly at \$2
- U.S. Agric But United States, Dept. of Agriculture, Bulletin, Distributed free of charge, U.S. Dept. of Agriculture, Division of Publications, Washington, D. C.
 Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed, also selected publications of chemistry, breasts.

other bureaus.

- U.S. Bur For & Dom Com --United States, Rureau of Foreign and Domestic Commerce, Special agents series, U.S. Bureau of Foreign and Domestic Commerce, Washington, D. C.
- S Bur For & Dom Com miss ser United States. Eureau of Foreign and Domestic Commerce, Miscellaneous series, U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.
- S Bur Mines Bul United States, Bureau of Mines, Bulletin, Distributed free of charge, U.S. Bureau of Mines, Washington, D. C. S Bur Mines Circ United States, Bureau of Mines, Minest circular, U.S. Bureau of Mines, Washington, D. C.

- Minea, Miners' circular, U. S. Burcau of Minea, Washington, D. C.
 U. S. Bur Mines, Technical paper, U. S. Burcau of Mines, Technical paper, U. S. Burcau of Mines, Washington, D. C.
 U. S. Bur Stand Bul "United States, Burcau of Standards, Bulletin, Gratis to circuational and scientific institutions and to government depositories, U. S. Burcau of Standards, Washington, D. C.
 Discontinued Discontinued

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 U. S. Bur Stand Clro-United States, Bureau of Standards, Circular, U. S. Bureau of Standards, Washington, D. C.

 U. S. Bur Stand Sci Pathited States, Bureau of Standards, Scientific papers, U. S. Bureau of Standards, Washington, D. C.

 U. S. Bur Stand Tech Pathited States, Bureau of Standards, Technologic papers, U. S. Bureau of Standards, Washington, D. C.

 U. S. Sp. Cons. Rep. United States, Special consular reports, U. S. Bureau of Foreign and Dismestic Commerce, Washington, D. C.

 W. Soc. E. J.-Journal of the Western Society of Engineers, 33 (ten numbers); single numbers 50c. Western Society of Engineers, 1735.

 Monadnock Elk, Chicago.

 Wis. U. Bul. Eng. S. Bulletin of the University of Wisconsin, Engineering Series, Univ. of Wis., Madison

Madinon

List of Pamphlets Indexed

Boston public library, Boston, Mass. Occupations; short lists of books in the pub-lic library. (Brief Reading Lists no 9)

Bureau of railway economics. Misc. ser. 33. Railway stockholders: December 31, 1917. Winter railroading.

California industrial accident commission, 525 Market St., San Francisco. Mine safety rules. Quarry safety rules. Safety rules for gold dredges.

California safety news. Industrial accident commission, San Francisco. Bulletins.

V. 2, no. 3, March, 1918. V. 2, no. 4, April, 1918.

Canada honorary advisory council for scientific and industrial research, Ottawa. Report.

3. De-tarring of gas by electrical precipitation, J. G. Davidson.

Council of national defense. Woman's com-

Woman in the war; a bibliography. M. R. Nims.

Federal board for vocational education, Washington, D.C. Bulletin.

11. Emergency war training oxvacetylene welders.

state college. Engineering experiment station, Ames.

Bulletins.

sulletins.

39. Good roads and community life in Iowa. J: E. Brindley and J: S. Dodds.

46. Electric pumping with results of tests and operating records. H. W. Wagner.

52. Spacing and depth of laterals in Iowa underdrainage systems and the rate of runoff from them with data from investigations. W. J. Schlick.

189. Silo construction. C. K. Shedd and W. A. Foster.

New York (state). Department of labor. Special bulletin.

. Dangers in the manufacture and industrial uses of wood alcohol.

Press of the engineer school, Washington, D.C.

Professional memoirs.
v.9, no.48. Poisonous gases in warfare.
H: H. Haferkorn and F. Neumann.
v.10, no.54, supp2. Screw threads. H: E. Haferkorn.

Russell Sage Foundation library, 130 Et. 22d St., N.Y. St., N.Y Bulletin

36. Industrial hygiene.

Technical association of the pulp and paper industry, 181 E. 28d St., N. Y.
Technical association papers. Series 2.
Literature of the paper industry, p. 11-23.
M. Hubbard.

United States. Bureau of applied economics, Washington, D. C. Changes in cost of living, 1914-1919. Standards of living, Wages in various industries.

United States. Bureau of the Census.

Bulletin,
186. Cotton production and distribution,
season of 1916-17.

United States. Bureau of Foreign and Domestic Commerce.

Tariff series.

27. Foreign tariff notes. 37. Customs tariff of Australia. L. Domer-37. atzky.

British control of imports and exports, with lists of prohibited goods. L. Domeratzky.

United States. Bureau of Labor Statistics. Bulletins.

215. Industrial experience of trade-school girls in Massachusetts. 217. Effect of workmen's compensation

laws in diminishing the necessity of in-dustrial employment of women and chil-

trial employment of the industry: 1907-1915, with a

218. Wages and nours of labor in the fron and steel industry: 1907-1915, with a glossary of occupations. 225. Wages and hours of labor in the lum-ber, millwork, and furniture industries, 1915.

227. Proceedings of the Employment managers' conference, Philadelphia, Pa., April 2-3, 1917.

1. Mortality from respiratory diseases in

dusty trades. F: L. Hoffman. 234. Safety movement in the iron and steel industry, 1907-1917. L. W. Chaney and H. S. Hanna.

235. Employment system of the Lake carriers' association. P. F. Brissenden, 236. Effect of the air hammer on the hands of stonecutters.

of stonecuters.

339. Wages and hours of labor in cotton goods manufacturing and finishing, 1916.

240. Comparison of workmen's compensation laws of the United States up to December 31, 1917. C. Hookstadt.

242. Food situation in Central Europe, 1917.

244. Labor legislation of 1917.

 244. Labor legislation of 1917.
 247. Proceedings of the Employment managers' conference, Rochester, N. Y., May 241. Proceedings of the Employment Man-agers' conference, Rochester, N. Y., May 9, 10, and 11, 1918. 249. Industrial health and efficiency. 254. International labor legislation and the society of nations. yS. Bauer. 255. Joint industrial councils in Great Brit-

257. Labor legislation of 1918.
261. Wages and hours of labor in woolen and worsted goods manufacturing, 1918.

United States. Bureau of Mines Chart of properties of mine gases. G. A. Burrell.

Coal-mine fatalities in the United States 1917. comp. by A. H. Fay. General information and rulings for the en-

forcement of the law regulating the man-ufacture, distribution, storage, use, or possession of explosives and their ingre-dients. F. S. Peabody. (Public No. 68, 65th Congress; H.R. 3932) War minerals investigation series. 2. Potash situation. A. W. Stockett.

United States. Department of Agriculture. Circulars.
78. Method of sale of nitrate of soda to farmers by the United States govern-

ment.

ment.
94. Regulations for cotton warehouses.
Farmers' bulletins.
475. Ice houses. L. C. Corbett.
703. Suggestions for parcel post market.
ing. L. B. Flohr and C. T. More.

List of Pamphlets Indexed—Continued

United States. Dept. of Agriculture. Farmers' bulletins.—Continued

865. Irrigation of alfalfa. S: Fortier.

888. Advice to forest planters in the Plains region. S. D. Smith.

904. Fire prevention and fire fighting on the farm. H. R. Tolley and A. P. Yerkes.

916. Successful community drying plant in Nebraska. C. W. Pugsley.

926. Some common disinfectants. M. Dorset.

Dorset.

930. Marketing butter and cheese by parcel post. L: B. Flohr and R. C. Potts. 958. Standard broom corn. B. E. Rothgeb. 963. Tractor experience in Illinois; a study of the farm tractor under corn-belt con-ditions. A. P. Yerkes and L. M. Church. 73. Soy bean: its culture and uses. W. J.

Morse

Morse.
974. Clearing land. E. D. Strait.
984. Farm and home drying of fruits and vegetables. J. S. Caldwell.
992. Use of machinery in cutting corn.
H. R. Tolley.

Reports.
115. Distribution of softwood lumber in the Middle West; wholesale distribution.

O. M. Butler.

6. Distribution of softwood lumber in the Middle West; retail distribution.

O. M. Butler. 116.

United States. Federal trade commission.

Cost reports of the Federal trade commission: coal; Pennsylvania—bituminous.

Report of the Federal trade commission on leather and shoe industries.

United States. Federal trade commission. Food investigation.

Report on flour milling and jobbing.

United States. Fuel administration. Bureau of Conservation, Engineering Bulletin.

1. Boiler and furnace testing. R. T. 1. Bond.

United States. Geological Survey.

Bulletin.
666-O. Our mineral supplies; bauxite and aluminum. J. M. Hill.

nited States. National advisory committee for aeronautics, Washington, D.C. 2d annual report, 1916. 3d annual report, 1917. United States.

United States. National museum, Washington, Bulletins.

2, v.1. Energy resources of the United States: a field for reconstruction.

102, pt.7. Natural gas: its production, service, and conservation. S: S. Wyer.

United States. Shipping board, Divisio planning and statistics, Washington, Stowage factors for ship cargoes. Division

United States. Tariff Commission. Report.

Dyes and other coal-tar chemicals. Tariff information series.

4. Button industry.
5. Glass industry as affected by the war.
11. Census of dyes and coal-tar chemicals, 11. 1918.

United States. War industries board, Washington, D. C. Price bulletin.

2. International price comparisons. W. C. Mitchell, M. L. Goldsmith and F. K. Middaugh.

University of California. Publications in engineering.

2, no. 2. Some tests of Douglas fir after

long use. A. C. Alvarez. (70c) 2, no. 3. Some compression tests of Portland cement mortars and concrete containing various percentages of silt. A. C. Alvarez and J. R. Shlelds. (25c)
University of Minnesota. Bulletin.
5. Manganiferous iron ores of the Cuyuna

district, Minnesota. E. Newton.

University of Missouri. Bulletin.

aw series 16. Pauliable servitu**des in** Missouri, G. L. Clark,

University of Texas. Bulletin. 1733. Water supply and sanitation.

iversity of Texas. Bulletin.
1733. Water supply and sanitation.
1735. Roads and pavements.
1752. Boller waters: their chemical composition, use and treatment. W. T. Read; E. P. Schoch.
1755. Report on the Colorado coal field of Texas. N. F. Drake.
1758. Geological conditions near Bridgeport and Chico, Wise county, Texas, with special reference to the occurrence of oil.
10. Böse.
1801. Notes on publications by the faculty, 1915-1917.

1915-1917.

1827. Texas mathematic teachers' bulletin.

1916:no 39. Planning of a M. H. Ellis and R. Everett. Planning of simple homes.

Washington state college, Pullman, Library bul-

Home economics series.
3. Economics of textiles and clothing, (25c)

Industrial Arts Index

A Cumulative Index to Engineering and Trade Periodicals

January, 1918—December, 1919

Abbeys Spanish abbeys. G. G. King. il Am Inst Arch J 7:399-405 S '19 Abbreviations Helpful suggestions for technical writers. J Elec 43:205 S 1 '19 Aberdeen, Scotland Rapid transit Zone fare in practice. W. Jackson. il map Elec Ry J 53:814-22 Ap 26 '19 Ability tests
Applying army methods of selecting men for industry. P. N. Golden, diags Am Mach 51:409-11 Ag 28 '19 Army personnel work—a war gift to industry, il Factory 22:686-7 Ap '19
Army trade skill tests applicable in construc-Army trade skill tests applicable in construction. W. D. Scott. Eng N 82:554-5 Mr 20 '19 Certain illogical tests of intelligence. H. P. Gillette. Eng & Contr 51:351-2 Ap 9 '19 Engineer officers rank first in army mental tests. Eng N 82:814 Ap 24 '19 How high do you stand in the rating scale? B. Barton. Eng & Contr 51:358-61 Ap 9 '19 Intelligence tests in industry. J. P. Lamb. Ind Management 58:21-3 J1 '19 Mental tests for typists and stenographers. M. P. Jaques. Ind Management 58:115-7 Ag '19

Mental tests in industry, R. M. Yerkes, diags Am Inst Min 10 Bul 146:405-19 F '19; Dis-cussion, 148:680-1 Ap '19

Right man in the right place in the a J: J. Swan. Mech Eng 41:423-8 My '19

Round pegs and square holes. Sci Am 120:92 F 1 '19

Selecting and training interviewers. R. W. Kelly. Ind Management 57:268-70 Ap '19

Simple tests for office applicants. G. W. Greenwood. Ind Management 57:377-8 My

Tests of men. diag Chem & Met Eng 21: 185-6 Ag 15 '19

Vocabulary test of intelligence. L.: M. Terman. Eng & Contr 51:361-2 Ap 9 '19

Abrasion meter Abrasion-meter. R. F. Yates. il Sci Am S 87: 372-8 Je 14 '19

Abrasive wheels. See Emery wheels; Grinding wheels

Abrasives Abrasive industry growing. Iron Age 102:849 O 8 '18

Carborundum co.'s new aluminous abrasive. Mach 26:189-90 O '19

Increased production of artificial abrasives. F. J. Katz. Chem & Met Eng 19:673 N 1 '18; Same. Iron Tr R 63:1182 N 21 '18; Same abr. Automotive Ind 39:674 C 17 '18; Same abr. J Fr Inst 186:647-8 N '18

Reserve source of raw materials for artificial abrasives. C: Eldredge. Am Mach 49:804 O 31 '18

See also Alundum; Carborundum; Emery wheels; Garnets; Grinding and polishing Absenteeism. See Employment management Absorbent cotton, See Cotton, Absorbent

Absorption

Extraction of gasoline from natural gas by absorption methods. G: A. Burrell, P. M. Biddison and G. G. Oberfell. il diags U S Bur Mines Bul 120:1-66 '17; Excerpts. Gen Elec R 21:247-8 Ap '18

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C. A. Adams. Power 49:337 Mr 4 '19
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G: B: Goodfellow. Metal Ind 17:405-12 S'19
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& Chem Eng 17:684 D 15 '17; J Ind & Eng
Chem 10:77-9 Ja '18
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June 19-22, il Chem & Met Eng 19:4-8 Jl 1
'18; J Ind & Eng Chem 10:651-3 Ag '18
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How A. I. E. E. changes may lessen scientists' support. J. 13. Whitehead. Elec W 74:577-8 S 13 '19

How can A.L.E.E. Increase its revenue? Elec W 74:522-3 S 6 '19

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Midwinter convention, New York, Feb. 19-21. Elec R 74:350-3 Mr 1 '19; Elec W 73:421-4 Mr 1 '19; Power 49:338-9 Mr 4 '19

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342nd meeting, Philadelphia, Dec. 13. Elec R 73:972-4 D 21 '18
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Mechanical section of American railroad as-sociation; rules of order. Ry Age 66:585-7 Mr 7 '19; Ry R 64:345-6 Mr 8 '19

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Greiner. Ry R 63:170-2 Ag 3 '18; Same cond.
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Committee work. Ry Age 66:949 Ap 11 '19
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Recommendations of fourteen adopted. Eng N 80:606 Mr 28 18 committees

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Four express companies to be consolidated. Ry Age 64:1377-82 Je 7 '18

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44:129-30 F 16 '18

History, aims and officers of the national organization. Good Roads n s 17:79-88 F 22 '19 History of the association and the St Louis convention program. Good Roads n s 15:65-9 F 2 '18

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By-products

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Waste-heat boiler for malleable furnaces.
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Joints

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Equipment and supplies

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Repair

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British mine accidents and their causes. Coal
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Standardized method for the determination of solidification points, especially of naphthalene and paraffin. R. M. Wilhelm and J. L. Finkelstein. diags U S Bur Stand Sci Pa 340:185-97 '19

Use of crude napthalene as fuel for internal combustion engines. Sci Am S 86:205 S 28 '18

Narrow gage railroads. See Railroads, Narrow gage

Nashville, Tennessee

Architecture

Architecture of Nashville. il Am Inst Arch J 7:159-70 Ap '19

Views of Nashville, Tenn. Am Inst Arch J 7:251-8 Je '19

Natalite

Natalite fuel. H. A. Findley. Automotive Ind 40:59 Ja 9 '19

New engine fuels. Sci Am 119:194 S 7 '18

National academy of design Leadership in art. H. R. Butler. Am Arch 115:341-2 Mr 5 '19

National Acme company, Cleveland, Ohio New National Acme screw products plant. il Mach 26:120-2 O'19

National advisory committee for aeronautics. See United States—National advisory committee for aeronautics

National alliance of employers and employed Reconstruction. A. H. Paterson. Engineer 125: 215 Mr 8 '18

National association building. See Office build-

National association of box manufacturers 19th annual convention. Am Lumberman 2236: 50 Mr 23 '18

National association of brass manufacturers Annual meeting, New York city, Dec. 12-13 Dom Eng 81:507 D 22 '17

Spring meeting, French Lick, Ind., March 27-28. Metal Ind 16:235 My '18

National association of builders' exchanges Annual convention, Pittsburgh, Feb. 5-7. Bldg Age 40:162-3 Mr '18

National association of corporation schools Industrial democracy. F. C. Henderschott. Eng & Min J 108:267 Ag 16 '19 Purpose of the association. Power 46:849 D

Survey on plans for improving in relations. Elec R 75:202-3 Ag 2 '19 industrial

National association of cotton manufacturers Address. W. F. Shove. Textile World 54:2296-8 N 9 '18

Annual convention, New York, April 23-25. 2496-8+ Ap 26 '19 Boston convention. Textile World 54:2294-8+ N.9 '18

Business meeting, May 3. Textile World 53: 5144e+ My 4 '18
Combined gathering of cotton manufacturers. Textile World 53:5137-40+ My 4 '18
Completes organization. Textile World 53:5563

My 18 '18

My 18 '18
Conterence on war problems in the textile industry, Boston, Jan. 18. Textile World 53:3449-50+ Ja 26 '18
New president and directors; portraits. Textile World 53:5134 My 4 '18
New work of association. R. R. Wilson. Textile World 53:2960 Ja 12 '18
Reports of permanent committees. Textile World 53:5144i+ My 4 '18
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Some present activities. R. R. Wilson. Textile World 55:221+ Ja 11 '19

National association of electrical contractors and dealers

and dealers

Annual convention, Milwaukee, July 16-18.

Elec R 75:144-8 Jl 26 '19

1st meeting under the new form of organization, Cleveland, July 17. Elec W 72:124, 173-4 Jl 20-27 '18; Elec R 73:134-6 Jl 27 '18

Organization of contractor-dealer association perfected. Elec R 72:158-9 Ja 26 '18

National association of electrical inspectors Questional association of electrical inspectors
Questions on the National electrical code, with
replies by members of the executive committee of the National association of electrical inspectors. Elec R 72:251-2, 531-2 F 9,
Mr 23 '18
Reconstruction convention, Springfield, Mass.,
Oct. 13-15. Elec W 74:848 O 18 '19; Elec
R 75:705-8 O 25 '19

National association of employment managers Convention, Cleveland, Ohio, May 21-23. Iron Age 103:1442-4 My 29 '19; Am Mach 50:1103-4 Je 5 '19; Ind Management 57:489-503f Je

National association of garment manufacturers 19th semi-annual convention, Chicago, May 14-17. Textile World 53:5569+ My 18 '18

National association of general contractors Proposed constitution. Eng & Contr 50:388 O 23 '18

National association of hosiery and underwear manufacturers

4th annual meeting of the western members, Chicago, Dec. 12. Textile World 54:3093-4 D 21 '18

14th annual meeting, Philadelphia, May 20-23; list of those present. Textile World 53:5713-18+ My 25 '18 15th annual convention, Philadelphia, June 3-5. Textile World 55:3459-60+ Je 7 '19

Knitting arts exhibition in Philadelphia. il Textile World 53:5751-66 My 25 '18

List of exhibitors at the exhibition in Philadelphia. plans Textile World 53:5566-8 My 18 '18

National association of manufacturers 23d annual convention, May, 1918, with abstracts of reports. Am Ind 18:7-19 Je '18

24th annual convention, New York city, May 19-21. Am Ind 19:7-17 Je '19

National association of master plumbers
Message to the master plumbers of the
United States. F. B. Lasette. Dom Eng
88:310-11 Ag 16 '19

36th annual convention, St Louis, Mo., June 4-6. Dom Eng 83:364-77 Je 8 '18; Metal Work 89:780-93 Je 14 '18

37th annual convention, Atlantic City, N. J., June 17-19. Dom Eng 87:566-85, 588-96 Je 28 '19; Metal Work 91:841-7 Je 27 '19

National association of master steam and hot water fitters. See Heating and piping con-tractors' national association

National association of owners of railroad securities

securities Committee hearings on railway legislation. Ry R 65:263 Ag 23 '19 Security owners' counsel replies to Judge Lovett's criticism. Ry R 65:185-90 Ag 9 '19

National association of purchasing agents Annual convention, Detroit, Sept. 23. Auto-motive Ind 39:532-3 S 26 '18 Pittsburgh convention. J. E. Schipper. Auto-mobile 37:675-6 O 18 '17

National association of railroad tie producers Organization. Ry Age 66:343-8 F 7 '19; Ry R 64:178-9, 233-4 F 1-8 '19; Am Lumberman 2282:51 F 8 '19

National association of railway and utilities commissioners

commissioners
30th annual convention, Washington, Nov. 12.
Ry Age 65:851-8 N 15 sec 1 '18; Ry R 63:
737-43 N 23 '18
31st annual convention, Indianapolis, Ind.,
October 14-16. Ry Age 67:931-9 N 7 '19;
Elec Ry J 54:824-6 N 1 '19

National association of real estate boards 12th annual convention, Atlantic City, June. D. K. Boyd. Arch Forum 31:51-2 Ag '19

National association of sheet metal contractors Activities of apprenticeship committee. Metal Work 89:72-3 Ja 11 '18

14th annual convention, Milwaukee, June 11-14. Metal Work 89:820-33 Je 21 '18

15th annual convention, Columbus, Ohio, June 10-13. Metal Work 91:795-801 Je 20 '19

National association of stationary engineers Convention of the New England States asso-ciation, Bridgeport, Conn., July 10-13. Power 48:138-9 Jl 23 '18

Ohio state association annual convention, Cincinnati, Sept. 8-9. Power 48:472 S 24 '18

36th annual convention, Cincinnati, O., Sept. 9-13. Power 48:468-70 S 24 '18

37th annual convention, Huntington, W.Va., Sept. 2. Power 50:484 S 16 '19

National association of stove manufacturers 47th annual meeting, New York, May 6-9. Metal Work 89:643-6 My 17 '18

National association of waste material dealers 6th annual meeting, New York, March 18-19. Metal Ind 17:163 Ap '19

National association of wool manufacturers Annual meeting, Boston. Textile World 55: 1036-7+ F 8 '19

53d annual meeting, New York, Feb. 6. Tex-tile World 53:3694 F 9 '18

National association of woolen & worsted overseers

37th semi-annual meeting, Philadelphia, June 7. Textile World 55:3656 Je 14 '19 National association of worsted and woolen

spinners Annual meeting, New York, May 9. Textile World 53:5409 My 11 '18

Second annual meeting, New York. tile World 55:2987 My 17'19

National automobile chamber of commerce Annual convention of service managers, Detroit. Motor Age 36:7-12 N 20 '19

Annual meeting, New York, June 6-7. Motor Age 33:18 Je 13 '18

Convention, Feb. 11. Automotive Ind 40:352-3 F 13 '19

Truck makers war convention. Horseless Age 43:43 Ja 15 '18; Automotive Ind 38:144-5+ Ja 10 '18

National automobile dealers' association Annual convention, Chicago, Feb. 4-5. F. M. Loomis. Motor Age 35:7-10 F 6 '19

National board of fire underwriters Education to minimize electrical fire losses; fire-prevention manual for school children. Elec R 72:1006-7 Je 15 '18

National bureau of wholesale lumber distribu-

Organization. Am Lumberman 2244:42 My 18

National capital building commission National capital building commission report. Am Arch 113:65 Ja 16 '18

National cash register company 58,000 square feet of floor space in 30 days. il Ind Management 56:134 Ag'18

National characteristics

Have Americans national characteristics? Sci Am 119:308 O 19 '18

National coal association Activities of the association during 1918. J. D. A. Morrow. Coal Age 15:111-12 Ja 16

nnual meeting, Philadelphia, May 28. Coal Age 13:1015-17 Je 1 '18; Power 47:891-2 Je 18 '18 Annual

Meeting, Chicago, May 22-24. Coal Age 15: 1000-1 My 29 19
National organization for coal operators.

National organization for coal operators. J. D. A. Morrow. Coal Age 13:114 Ja 19 '18 Planning for peace activities. Coal Age 15: 149-50 Ja 16 '19

National coal jobbers' association

2d annual convention, Buffalo, N. Y., June 4-5. Coal Age 13:1110 Je 15 '18

National commercial gas association
Plans for amalgamation of the American gas
institute and the National commercial gas
association rapidly approaching completion.
Am Gas Eng J 108:235-6, 365-9 Mr 9, Ap 20
'18; Gas Age 41:423-4 My 1 '18

National committee of the confederated supply associations

Meeting, Cleveland, O., May 15. Metal Work 89:658-9 My 24 '18

National committee on gas and electric service Report of recent activities. Elec R 71:1061-2; 72:558-9 D 22 '17, Mr 30 '18; Elec W 71: 428, 688, 739 F 23, Mr 30-Ap 6 '18 Review of the committee's achievements. Elec R 72:990-1 Je 15 '18

National conference for good city government 26th conference, New York, June 5-7. Munic J 44:499+ Je 15 '18

National conference of tractor manufacturers Manufacturers of tractors organize, Automo-tive Ind 38:612 Mr 21 '18

National conference on Americanization in in-

dustries
Meeting, Boston, June 23-24. Am Ind 19: 17-18 Jl '19

National conference on city planning 11th meeting, Niagara Falls and May 26-28. Eng N 82:1133-4 Je Munic J 47:60+ Jl 26 '19 Buffalo,

National conference on war economy Conference considers ways and means for securing greater economy and efficiency in public expenditures. Eng N 80:1151+ Je 13 '18

National council for industrial defense 1st meeting of the newly appointed Advisory committee. Am Ind 18:13-14 Mr '18

National council of American cotton manufacturers

Co-operative war work of cotton associations. W. D. Adams. Textile World 55:289+ Ja 11 '19

Members; portraits. Textile World 53:5136 My '18

National council of lighting fixture manufac-

Representatives of fixture and illuminating glassware manufacturers' organize at Pittsburgh. Elec R 74:311 F 22 '19

National defense, Council of. See Council of na-

tional defense
National district heating association
Cooperation between the National district
heating association and the American so-

ciety of heating and ventilating engineers. D. L. Gaskill. Am Soc Heat & V E 23:585-90; Discussion. 591-4 '17 Meeting of executive committee takes place

of '18 annual convention. Heat & Ven 15:61-2 S

oth annual meeting, Pittsburgh, June 10-13. Dom Eng 87:487, 530-2 Je 14-21 '19; Heat & Ven 16:38-54 Jl '19; Metal Work 91:811-13 Je 20 '19; Power 49:992-3 Je 24 10th annual '19

National editorial association Annual convention, Little Rock and Hot Springs, Arkansas, June 3-8. Inland Ptr 61: 509-12 Jl '18 Rock and Hot

National electric light association

Abstracts of committee reports and papers presented at the annual convention, Atlantic City, May 20-22. Elec R 74:849-59 My 24

Activities of the N.E.L.A. Elec R 75:527-8 S 27 '19
Annual convention; Pacific R. H. Ballard.

Coast section meets with the Pacific division of the Electrical supply jobbers' association and the California association of electrical contractors and dealers. il Elec W 71:1036-40 My 18

Committees on water power and co-operation; personnel. Elec R 75:954 D 6 '19 East and West meet. Elec W 73:1256-7 Je 14 '19

East and West interest and the state of the Executive committee, New York city, Sept. 13. Elec Ry J. 53:993-1004 My 24 '19
42nd annual convention, Atlantic City, Elec Ry J. 53:993-1004 My 24 '19
42nd annual convention, Atlantic City, May 19-22. Elec R. 74:775-82 My 17 '19; Elec Ry J. 53:1053-5 My 31 '19; Elec W 73:1076-1101 My 24 '19; Power 49:834-6 My 27 '19; J. Elec 42:596-9 Je 15 '19
Large plans for commercial section work. plan Elec W 74:486-7 Ag 30 '19
Meeting of the Executive committee, New York city, Sept. 13. Elec R 73:502 S 28 '18
Meeting of the Executive committee of the Commercial section, Association Island, N.Y. Elec R 75:405-6 S 6 '19

York city, Sept. 13. Elec R 73:502 S 28 '18 Meeting of the Executive committee of the Commercial section, Association Island, N.Y. Elec R 75:405-6 S 6 '19 Michigan section 6th annual convention, Ottawa Beach, Aug. 26-28. Elec R 75:359-60 Ag 30 '19 N.E.L.A. ladministration commences active work. Elec W 74:313-14 Ag 9 '19 N.E.L.A. lec W 74:313-14 Ag 9 '19 N.E.L.A. lighting exhibit. G. F. Morrison. il Gen Elec R 22:767-75 O '19 N.E.L.A. lighting exhibit. G. F. Morrison. il Gen Elec R 22:768-22 O '19 Plans of Advertising and publicity bureau, N. E. L. A. plan Elec R 75:573-4 O 4 '19 Program for 42d annual convention, Atlantic City, N.J., May 19-22. Elec W 73:802-3 Ap 19 '19; Same. Elec R 74:880-2 Ap 26 '19 Re-awakening of the electrical industry under the leadership of the National electric light association. R. H. Ballard. Elec R 74:982-4 Je 14 '19 Southeastern section, Asheville, N.C., annual convention, Sept. 17-19. Elec W 74:719-21 S 27 '19

S 27 '19

Telegraphic report of proceedings of the fifteen sessions of the Atlantic City convention. Elec R 74:831-45 My 24 '19
3rd annual convention of the Pacific coast section, Coronado Beach, California, April 30-May 2. Elec W 73:903, 947-50 My 3:10 '19; Elec R 74:753-7 My 10 '19; J Elec R 72:475-91 My 15 '19
34th annual meeting and 41st convention, Atlantic City, N.J., June 13-14. Elec R 72: 992-8 Je 15 '18; Elec Ry J 51:1180-3 Je 22 '18; Elec W 71:1248-53 Je 15 '18; Power 47: 926-8 Je 25 '18; Munic J 45:42+ Jl 13 '18
Three and one-half years of achievement. A. E. Wishon, J Elec 43:109-10 Ag 1 '19
War convention of New England section, Springfield, Mass., Sept. 27-28. Elec W 72: 656-9 O 5 '18; Elec R 73:540 O 5 '18

Public policy committee

Report of Public policy committee. Britton. J Elec 42:479-83 My 15 '19

National electrical code Changes in electrical committee in charge of code. Elec R 73:215 Ag 10 '18

National electrical code—Continued
Combined electrical fire and safety code.
M. G. Lloyd. Elec R. 74:178-80 F 1 '19
Devereux's list of changes in the 1918 edition
of the National electrical code. Elec R. 73:
902-4, 945-7 D. 7-14 '18; Correction. Elec
W. 73:1342 Je 21 '19
Discussion of code rule on interbuilding connections. H. S. Wynkoop. Elec R. 75:882-3
N. 22 '19
Discussion of code rules on high potential

Discussion of code rules on high-potential systems. G. S. Lawler. Elec R 75:822-4 N 15 '19

Electrical code covering both fire and accident prevention. Elec R 73:629-30 O 19 '18 Electrical committee of the National fire protection association expands its organization for revision of National electrical code. Elec R 74:426-7 Mr 15 '19 Questions on the National electrical code, with replies by members of the executive committee of the National association of electrical inspectors. Elec R 72:251-2, 531-2 F 9, Mr 23 '18 Report of committee. Elec R 74:180-1 F 1 '19

Report of committee. Elec R 74:180-1 F 1 '19 Revision of code rules on motors and related subjects. Elec R 74:1902 Je 28 '19; Same. Elec W 73:1405 Je 28 '19 Structural service department. Am Inst Arch J 6:315 Je '18

Suspension of the rule calling for marking of wires to facilitate polarity identification. Elec W 72:288 Ag 10 '18; Same. Elec R 73: 222 Ag 10 '18

See also National electrical safety code National electrical contractors and dealers' as-

sociation Standardized andardized accounting system. chart J Elec 43:168-70 Ag 15 '19

National electrical contractors' trading associ-

ation
Electrical contractors' association of England
forms separate corporation to guarantee
work of its members. Elec R 72:207 F 2
'18

National electrical credit association 20th annual meeting, Cincinnati, June 13-14. Elec R 74:1039-40 Je 21 '19

National electrical proving house, Great Britain Scheme for an electrical proving house. Inst E E J 56:26-7 Je '18

E E J 56:26-7 Je '18

National electrical safety code
Combined electrical fire and safety code.
M. G. Lloyd. Elec R 74:178-80 F 1 '19
Electrical code covering both fire and accident prevention. Elec R 73:629-30 O 19 '18
Is the National electrical safety code suitable for California? E: B. Rosa. J Elec 43:57-9 Jl 15 '19
National electrical safety code. G: E. Quinan. J Elec 43:54-7 Jl 15 '19
Proposed changes in part I, National electrical safety code. Elec R 75:580-1 O 4 '19
Proposed changes in part II, National electrical safety code. Elec R 75:944-8, 982-6 D 6-13 '19
Rules for the installation and maintenance of

6-13 '19
Rules for the installation and maintenance of electrical utilization equipment. Elec R 72: 467-71, 527-8, 566-9, 607-8, 639-41, 689-91 Mr 16-Ap 20 '18
Safe installation of electrical utilization equipment Elec R 72:434-5 Mr 9 '18
Scope and application. U S Bur Stand Circ 72:1-84 '18
Structural services department. Am Inst Arch

72:1-04 10 Structural service department. Am Inst Arch
J 6:315-16 Je '18

ear's progress in electrical safety v M. G. Lloyd. Elec R 72:33-5 Ja 5 '18

National engineering council
Scheme of organization for National engineering council suggested. L. B. Smith.
Eng N 88:190 Jl 24 '19

National fire protection association Important matters discussed at 23rd annual meeting, Ottawa, Ontario, Canada, May 6-8. Am Arch 115:814 Je 11 '19

Meeting, New York, March 4-5. Elec W 73: 542-3 Mr 15 '19

Personnel of Underwriters' electrical committee. Elec W 72:218 Ag 3 '18

22d annual convention, Chicago, May 7-9. Am Lumberman 2243:49 My 11 '18; Munic J 44:460+ Je 1 '18

National foreign trade council Delegates from fron, steel, machinery and alled trades at 1918 convention. Iron Age 101:1118-19 Ap 25 '18

101:1118-19 Ap 25 '18
5th annual convention, Cincinnati, April 18-20.
Am Lumberman 2240:37; 2241:45-7 Ap 20-27
'18; Automotive 1nd 38:805-6 Ap 25 '18; Iron
Age 101:1068-72+ Ap 25 '18; Iron 'fr R
62:1059-62 Ap 25 '18; Ry Age 64:1061-3 Ap
26 '18

government interference is the demand of foreign trade convention. A. Sinsheimer. Automotive Ind 40:935-41 My 1 '19 Less

6th National foreign trade convention, Chicago, April 24-26. Ry Age 66:1087-90 My 2 '19; Iron Age 103:1161-8 My 1 '19

National forests. See Forest reserves

National founders' association acional rounders' association 22d annual convention, New York, Nov. 13-14. Iron Age 102:1280-1 N 21 '18; Iron Tr R 63:1189-91 N 21 '18

National gas safety code Work of U.S. Bureau of standards in gas field told in annual report. S. W. Stratton. Am Gas Eng J 110:24-5 Ja 11 '19

National good roads show 10th show, New York, Feb. 25-28. il plan Good Roads ns 17:108-10+ Mr 8 '19

National guard (United States). See United States—Militia

National hardware association 7th annual meeting, Pittsburgh, May 24-25. Iron Age 101:1418-19 My 30 '18; Metal Work 89:717-20 My 31 '18

National hardwood lumber association 21st annual convention, Chicago, June 20-21. Am Lumberman 2249:38-41+; 2250:47-53 Je 22-29 '18

22d annual convention, Chicago. Am Lumber-man 2301:55-8; 2302:51-5 Je 21-28 '19

National highway traffic association
Annual meeting, New York, May 14. Good
Roads n s 17:217 My 17 '19; Eng N 82:1036
My 22 '19

National industrial council for waterworks undertakings Inaugurated, April 3rd, 1919. Engineer 128:28, 30 Jl 11 '19 A. B. Pilling.

National industrial traffic league Annual convention, Cincinnati, Ry Age 65:963-6 N 29 '18 Nov. 20-21.

Annual meeting, Chicago, Nov. 12-13. Ry Age 67:1013-14 N 21 '19

Meeting, Buffalo, N.Y., Aug. 29-30. Ry Age 65: 453-5 S 6 '18

Spring meeting, Chicago, March 21-22. Ry Age 64.792-3 Mr 29 '18

Spring meeting, New Orleans, March 11-12. Ry Age 66:837-8 Mr 28 '19

National labor board. See United States—National war labor board

National lime association (formerly National lime manufacturers association)
Reorganization. Concrete 15:sup74 N '19

National lime manufacturers association 16th annual meeting, Cleveland, O., June 19-20. Concrete 13:sup6 Jl '18

National lumber manufacturers' association Opportunity. W. Compton. Am Lumberman 2292:49-50 Ap 19 '19

16th annual meeting, Chicago, May 20-22. Am Lumberman 2245:44-54 My 25 '18

National machine tool builders' association Annual meeting, New York, Dec. 10-11. Am Mach 49:1149-50 D 19 '18

18th annual convention, New York, Oct. 15-16. Iron Tr R 65:1136-7 O 23 '19: Iron Age 104:1078-9 N 27 '19; Mach 26:275 N '19

Semiannual convention, Atlantic City, N. J., May 16-17. Iron Age 101:1330-4+ My 23 '18; Iron Tr B 62:1331-3 My 23 '18; Am Mach 48:959-67 Je 6 '18

National machine tool builders' assn.—Cont. Semi-annual meeting, Atlantic City, May 12-13. Am Mach 50:1004-5 My 22 ''19; Iron Age 103:1290-2 My 15 '19; Mach 25:924-5 Je

National merchant marine association Organized as a result of a convention held in Washington on Jan. 23-24. Marine R 49: 149 Mr '19

National metal trades association

ational metal trades association
20th annual convention, New York, April 2425. Iron Age 101:1136-41+ My 2 '18; Iron Tr
R 62:1125-7 My 2 '18
21st annual convention, New York, April 2324. Am Mach 50:871-2 My 1 '19; Iron Age
103:1153-7 My 1 '19; Iron Tr R 64:1157-9 My
1 '19

National non-partisan league Farmers' non-partisan league. F. G. R. Gor-don. Am Ind 18:14-15 F '18 Menace of the Non-partisan league. W. H. Barr. Iron Age 101:1141+ My 2 '18

National parks See Forest reserves; Zion national monument

National physical laboratory, Great Britain National industrial research laboratory. Glazebrook. Engineer 125:180-1 Mr 1 Same. Eng & Contr 50:423-5 O 30 '18 Scheme for an electrical proving house. E E J 56:26-7 Je '18 R:

National pipe and supplies association 9th annual convention, Cleveland, O., May 13-14. Dom Eng 83:255-7 My 18 '18; Iron Age 101:1351 My 23 '18; Metal Work 89:680-3 101:1351 A My 24 '18

10th annual convention, Pittsburgh, Pa., May 12-13. Dom Eng 87:297-9 My 17 '19; Metal Work 91:621-3 My 16 '19

National railway appliances association Exhibition in Chicago. Iron Tr R 62:734-5 Mr

10th annual meeting, Chicago, March 19. Ry R 62:443-4 Mr 23 '18

National research council
Annual meeting division of chemistry and
chemical technology. J Ind & Eng Chem 11:
481-3 My '19
Council made permanent. Eng N 80:1017 My

23 '18

23 '18
Division of engineering of the National research council. G. H. Clevenger. Mech Eng 41:631 Jl '19
International research; work of American and British societies on steel—flakes in gun steel. H: M. Howe. Iron Age 103: 1710 Je 26 '19
Meetings of the executive committee of the division of chemistry and chemical technology. J Ind & Eng Chem 11:694-7 Jl '19

National engineering societies and the National research council. G: E. Hale. Am Inst E E Pro 37:1223-36 O '18; Same. Am Soc M E J 40:825-9 O '18; Excerpts. Am Inst Min E Bul 142:sup38-42 O '18

National research council. Mech Eng 41: 559 Je '19

Organization of research work on a national

Organization of research work on a national scale. Eng & Min J 105:1136-7 Je 22 '18; Same. Chem & Met Eng 19:335 S 15 '18

Organizing America's research work national scale. C: W. Baker. Eng 1079-80 Je 6 '18 on Eng N 80:

Permanent organization. Mech Eng 41:485-6

Reconstruction problems to be studied. Eng
N 81:511 S 12 '18

Report of pyrometer committee of National research council. G: K. Burgess. diags Am Inst Min Bul 153:sup2271-2300 S '19; Discussion. 156:3194-8 D '19
Research of America. R. A. Millikan. Illum Eng Soc 13:533-5 no 9 '18

Stimulation of research. Sci Am 120:518-19+My 17 '19

To be made permanent body; executive order of President Wilson. Am Inst E E Pro 37:sup 189 Je '18; Am Inst Min E Bul 139: sup 6 Jl '18; Am Mach 48:1116 Je 27 '18

War activities of our technical societies. C.

War activities of our technical societies. C. W. Rice. Sci Am 118:586+ Je 29 '18
War activities of the National research council. G: E. Hale. Am Inst E E Pro 37:909-34 JI '18; Same cond. Am Inst Min E Bul 140:sup39-45 Ag '18
Work of the National research council. H: M. Howe. Iron Age 102:1023-5 O 24 '18; Same abr. Am Inst Min E Bul 144:1715-19 D '18

National retail coal merchants' association

National retail coal merchants association and annual convention, Buffalo, May 14-16. Coal Age 15:951-2 My 22 '19
National retail lumber dealers' association ad annual meeting, Chicago, Sept. 18-19. il

Am Lumberman 2262:46c-48+ S 21 '18 3d annual meeting, Detroit, Mich. Am Lumberman 2314:53-5 S 20 '19

National roads. See Roads, National

National safety council History. Coal Age 14:484-5 S 12 '18 History, Coal Age 14:484-5 S 12 '18
7th annual congress, St Louis, Sept. 16-20. Am
Lumberman 2262:52-3+ S 21 '18; Coal Age
14:502-3 S 12 '18; Iron Age 102:748-9 S 26
'18; Iron Tr R 63:732-4 S 26 '18; Ry Age 65:
589-92 S 27 '18; Ry R 63:423-6, 463-5 S 21-28 18

8th annual meeting, Cleveland, Oct. 1-4; with abstracts of papers. Elec Ry J 54:790-4 O 25 '19

'19
8th annual safety congress, Cleveland, Oct.
1-4. Coal Age 16:444 S 11 '19; Eng & Min J
108:557-8 S 27 '19; Iron Tr R 65:987-8. O 9
'19; Foundry 47:747-8 O 15 '19; Am Arch
116:595-6 N 5 '19; Ry Age 67:1019-22 N 21
'19, Iron Age 104:1183-6 D 11 '19
8th annual safety congress, Cleveland, Oct.
1-4. R. D. Hall. Coal Age 16:618-23 O 9 '19
Need for a definite technical service in the
mining section of the National safety
council. B: T. Tillson. Coal Age 16:645-8 O
16 '19

Work of the organization. Eng & Min J 106: 471-2 S 14 '18

National security league Congress on national service held by Na-tional security league. G. L. Alexander. Gen Elec R 21:281-3 My '18

National service, Congress on. See Congress on national service

National sheep and wool bureau of America Annual meeting, Chicago, June 17. Texti World 53:6211+ Je 22 '18

National sheep conference

Wool conference; second national ence at Philadelphia, April 29-80. World 55:2707 My 3 '19

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Cost of operation

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Rapid transit

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